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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,790	12/04/2001	Tomoaki Masuda	04558/059001	9906
23850	7590	10/15/2003	EXAMINER	
ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP 1725 K STREET, NW SUITE 1000 WASHINGTON, DC 20006			DI GRAZIO, JEANNE A	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 10/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/006,790

Applicant(s)

MASUDA ET AL.

Examiner

Jeanne A. Di Grazio

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments filed July 14, 2003 have been fully considered but they are not persuasive.

The Examiner addresses each of Applicant's arguments as follows.

#### *I. Yamaoka et al. (US 6,417,904 B1) and Norbornene-Based Resin Film*

Applicant asserts that Yamaoka does not disclose a norbornene based resin film in the context of an optical compensation film. On the contrary, the Yamaoka invention is drawn to an optically compensatory film, optically compensatory polarizing plate, and liquid crystal display device wherein a transparent support film of a norbornene polymer (Col. 3, Lines 38-40) is incorporated to adhesively support a phase retarder layer (Col. 3, Lines 38-40) or polarizer.

Yamaoka further teaches that the thickness of the adhesive layer can be determined by factors such as adhesive force, etc. (Col. 5, Lines 56-59).

Yamaoka further teaches that the thickness of the adhesive layer can range from 1 to 500 $\mu$ m, especially in a range from 5 to 200  $\mu$ m, more especially in a range of from 10 to 100  $\mu$ m (Col. 5, Lines 57-62). Yamaoka also recites that the norbornene film has a given photoelectric coefficient (Col. 8, Lines 17-23).

Contrary to Applicant's argument, the Yamaoka invention is directed to an invention that incorporates a transparent support of norbornene resin film that is integrally in conjunction with an optical compensation sheet.

Referring to Figure 2, the compensating film is designated by reference number 11 and the liquid crystal cell is designated by reference number 6; thus, the compensating film and

Art Unit: 2871

liquid crystal layer are separate entities. The compensating film is not merely made of liquid crystal as asserted by Applicant but is instead a laminate of several films at least one of which is norbornene based resin.

## *II. Insufficient Adhesion*

Contrary to Applicant's assertion that Yamaoka fails to address the problem of insufficient adhesion when a norbornene film is used, Yamaoka explicitly specifies that the transparent adhesive film of norbornene resin is used because of its ability to remain stable in the face of humidity and other external stimuli (Col. 3, Lines 38-50). This suggests that the film is stable against peeling or other non-uniformities that can be encountered in the compensator by external stimuli.

Thus, the norbornene film of Yamaoka's stated thickness (and adhesive force), photoelectric coefficient, and weight would at least be able to guard against humidity and other factors that could lead to peeling of the films from the device.

Furthermore, Applicant does not claim the increasing of an adhesive force by surface treatment and prevention of peeling.

## *III. Miyoshi Isamu (JP-09-151627)*

The Isamu invention concerns, in part, a pressure-sensitive adhesive (PAJ) whereby the adhesive force is set at Applicant's specified 10.0 N/20 mm. The adhesive force concerns a galvanized sheet iron. The Examiner notes that in Yamaoka, a separator of sheet metal can be used to temporarily bond the adhesive layer to prevent the adhesive force from being lowered by contamination or the like until the adhesive layer can be used for the required bonding (Col. 6, Lines 7-21).

Art Unit: 2871

One of ordinary skill in the art at the time the invention was made would have been motivated to use a metal layer of 10.0 N/20 mm to at least prevent an adhesive layer of norbornene resin from being contaminated so that further bonding could be strengthened.

Therefore, the Examiner maintains the rejections of all of the claims for the cited reasons.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 2, 6, 8, 9, 10, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaoka et al. (US '904 B1) in view of Miyoshi Isamu (JP 09-151627).

Per claims 1 and 10: Yamaoka has an optical compensating film (Col. 2, Line 59), a transparent film base in the optically compensatory film provided to act as an adhesive layer (Col. 3, Lines 9-11), where the adhesive is coated (Col. 5, Lines 46-56), and the transparent (adhesive) film is made of norbornene (Col. 3, Lines 60-67 and Col. 4, Lines 1-9). From the teachings of Yamaoka, the method steps of claim 10 follow.

Yamaoka furthermore teaches that a separator of a metal sheet can be used to temporarily bond an adhesive layer in order to prevent the adhesive force from being lowered because of contamination until the adhesive layer can be suitably bonded (Col. 6, Lines 7-21).

Yamaoka does not appear to explicitly specify an adhesive layer having an adhesive force of 10 N/20mm; however, Isamu does have a galvanized sheet iron with an adhesive force of 10.0 N/20mm (PAJ).

Art Unit: 2871

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Yamaoka in view of Isamu to ultimately prevent rising (peeling) of an adhesive layer from its base because such an adhesive force may prevent contamination of a norbornene film.

Per claim 2: Yamaoka has a separator (treated with a releasant) temporarily bonded to the adhesive layer which acts as a surface treatment (Col. 6, Lines 7-13). It would have been obvious to one of ordinary skill in the art at the time the invention was made to surface treat the transparent film base (norbornene film) and to then provide onto the norbornene film an adhesive layer for the following reason: to prevent lowering of the adhesive force due to contamination until the adhesive layer can be suitably bonded (Yamaoka, Col. 6, Lines 7-13).

Per claims 6 and 13: Yamaoka recites an adhesive layer having a thickness within the range of 1  $\mu\text{m}$  to 500  $\mu\text{m}$  (Col. 5, Lines 57-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have an adhesive layer within the range of from 20  $\mu\text{m}$  to 200  $\mu\text{m}$  depending upon the adhesive force (Col. 5, Lines 57-62).

Per claim 8: Claim 8 recites the elements of claim 1 with the addition of the optical compensating film adhered to a polarizing plate via an adhesive layer. Yamaoka has an optically compensatory film and polarizing plate bonded to each other by an adhesive layer (Col. 5, Lines 32-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a polarizing plate and optical compensating film adhered to each other by an adhesive layer with the recited elements of claims 1 and 8 for birefringence characteristics hardly changed by heat and humidity and light weight per unit area (Yamaoka, Col. 1, Lines 40-45).

Art Unit: 2871

Per claim 9: Claim 9 recites the elements of claims 1 and 8 with the addition of an LCD using such an optical compensating film or polarizing plate. Yamaoka has an LCD that incorporates the compensatory film and plate. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have an LCD incorporating the elements as noted for a device of reduced weight and that can withstand external stimuli such as heat and humidity as noted in Yamaoka throughout.

2. Claims 3, 4, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaoka et al. (US '904 B1) and Miyoshi Isamu (JP 09-151627) in view of Arimoto et al. ('714 B2).

Per claims 3, 4, and 11: Yamaoka does not appear to specify a corona discharge treatment and a discharge frequency in the range of from 50 Hz to 500 kHz and a discharge amount in the range of from 0.001 kV \* A min/m<sup>2</sup> to 5kV \* A min/m<sup>2</sup>; however, Arimoto specifically teaches that the discharge frequency is preferably 50 to 50,000 kHz with a treatment intensity of 0.01 to 5kV \* A min/m<sup>2</sup> (Col. 18, Lines 1-5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yamaoka in view of Arimoto because the frequency range is a common range within which to perform a corona discharge treatment (See Arimoto's list of cited Japanese patents at Cols. 17 and 18, Lines 66-67 and Line 1) and because the treatment intensity as recited improves surface wettability (Col. 18, Lines 3-5).

3. Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaoka et al. (US '904 B1) and Miyoshi Isamu (JP 09-151627) in view of Pekko (US '370).

Art Unit: 2871

Per claims 5 and 12: Yamaoka does not appear to have an adhesive of an acrylic adhesive; however, Pekko has a pressure sensitive acrylic adhesive (Col. 4, Lines 20-26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yamaoka in view of Pekko to choose an acrylic adhesive that provides a secure and preferably permanent bond (Pekko, Col. 4, Lines 25-26).

4. Claims 7 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaoka et al. (US '904 B1) and Miyoshi Isamu (JP 09-151627) in view of Hani et al. (JP WO 92/22002).

Per claims 7 and 14: Yamaoka does not appear to specify a stretching ratio of a norbornene film ranging from 1.01 to 10 times; however, Hani has a norbornene resin sheet stretched from 1.1 to 8 times (see Hani). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yamaoka in view of Hani for resistance against heat and humidity and for a birefringent layer optically uniform over an entire surface that maintains its uniformity even under changes of temperature and humidity as noted in Hani.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37



Art Unit: 2871

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeanne A. Di Grazio whose telephone number is (703)305-7009. The examiner can normally be reached on M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703)746-8741 for regular communications and (703)746-8741 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Jeanne Andrea Di Grazio

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JDG

  
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